

SEQUENCE LISTING

<110> Tanksley, Steven D.

<120> GENE CONTROLLING FRUIT SIZE AND CELL DIVISION IN PLANTS

<130> 19603/3211

<140>

<141>

<150> 60/215,824

<151> 2000-07-05

<160> 39

<170> PatentIn Ver. 2.1

<210> 1

<211> 492

<212> DNA

<213> Lycopersicon pennellii

<400> 1

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gatgaccctg ctaactgttt agttactagt gtttgccctt gtatcacctt tggacagatt 180
tctgaaatac taaacaaagg aacaacttca tgtgggagta gaggtgcatt atattgtttg 240
ctgggactga caggattgcc tagcctatat tcctgcttct acaggtctaa aatgaggggg 300
caatatgatc tggaagaggc accttgtgtt gattgtcttg tacatgtatt ctgtgaacct 360
tgtgtctttt gccagaata cagagagctt aagaaccgtg gctttgatat gggaataggg 420
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<210> 2

<211> 163

<212> PRT

<213> Lycopersicon pennellii

<400> 2

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Met Tyr Pro Thr Val Gly Tyr Asn Leu Gly Leu Met Lys Gln Pro Tyr
  1           5           10          15

Val Pro Pro His Tyr Val Ser Ala Pro Gly Thr Thr Thr Ala Arg Trp
  20           25           30
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11/20/2019 11:29:29 AM

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<213> Lycopersicon esculentum

<400> 4

Met Tyr Gln Thr Val Gly Tyr Asn Pro Gly Pro Met Lys Gln Pro Tyr
1 5 10 15

Val Pro Pro His Tyr Val Ser Ala Pro Gly Thr Thr Thr Ala Arg Trp
20 25 30

Ser Thr Gly Leu Cys His Cys Phe Asp Asp Pro Ala Asn Cys Leu Val
35 40 45

Thr Ser Val Cys Pro Cys Ile Thr Phe Gly Gln Ile Ser Glu Ile Leu
50 55 60

Asn Lys Gly Thr Thr Ser Cys Gly Ser Arg Gly Ala Leu Tyr Cys Leu
65 70 75 80

Leu Gly Leu Thr Gly Leu Pro Ser Leu Tyr Ser Cys Phe Tyr Arg Ser
85 90 95

Lys Met Arg Gly Gln Tyr Asp Leu Glu Glu Ala Pro Cys Val Asp Cys
100 105 110

Leu Val His Val Phe Cys Glu Pro Cys Ala Leu Cys Gln Glu Tyr Arg
115 120 125

Glu Leu Lys Asn Arg Gly Phe Asp Met Gly Ile Gly Trp Gln Ala Asn
130 135 140

Met Asp Arg Gln Ser Arg Gly Val Thr Met Pro Pro Tyr His Ala Gly
145 150 155 160

Met Thr Arg

<210> 5

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: B26 Primer

<400> 5

gactcgagtc gacatcga

18

<210> 6
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: B25 Primer

<400> 6
gactcgagtc gacatcga 18

<210> 7
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: ORFXF2 Primer

<400> 7
aaacaacctt atgttcctcc tca 23

<210> 8
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FW01 Primer

<400> 8
gcccttgat cacctttgga 20

<210> 9
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: GSP1 Primer

<400> 9
gatgatttca ttgatcttgc a 21

<210> 10
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Abridged
 Anchor Primer

<220>
 <221> unsure
 <222> (24)..(35)
 <223> N at any position in this sequence is Inosine

<400> 10
 ggccacgcgt cgactagtagt gggnnngggnn gggnnng 36

<210> 11
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: GSP2 Primer

<400> 11
 taacatgaac atgcagggag tc 22

<210> 12
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Abridged
 Universal Anchor Primer

<400> 12
 ggccacgcgt cgactagtagt 20

<210> 13
 <211> 20
 <212> DNA
 <213> Artificial Sequence

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

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[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

[illegible]

Met Asp Pro Gln Pro Ala Met Tyr Arg Lys Lys Lys Asn Asp Val Pro
1 5 10 15

Ile Thr Leu Trp Cys Pro Cys Ile Thr Phe Gly Gln Val Ala Glu Ile
35 40 45

Ile	Ile	Ile	Cys	Val	Thr	Ser	Cys	Pro	Cys	Ile	Tyr	Ser	Cys	Phe	Tyr
65					70					75					80

Asp Cys Leu Val His Cys Phe Trp Glu Ala Cys Ala Leu Cys Gln Glu
100 105 110

Gly Asn Val Glu Arg Gln
130

<213> Lycopersicon esculentum4

Met Gly Met Gly Gln Tyr Gln Gln Gly Met Gln Pro Ala Pro Pro Met
1 5 10 15

Gly Leu Phe Asp Cys Met Glu Asp Pro Thr Asn Ala Leu Ile Thr Ala
35 40 45

[illegible]

<211> 145

<213> Pet:

<400> 18

Phe Gln Asp Val Lys Gly Cys Cys Leu Thr Cys Trp Cys Pro Cys Ile
20 25 30

Thr Phe Gly Arg Ile Ala Glu Val Ala Asp Gln Gly Ser Thr Ser Cys
35 40 45

Val Val Ser Gly Thr Val Tyr Leu Leu Val Tyr Leu Val Thr Ser Gly
50 55 60

Phe Gly Cys Cys Trp Tyr Ser Cys Phe Tyr Arg Ser Lys Leu Arg Asn
65 70 75 80

Gln Tyr Tyr Leu Asp Glu Lys Pro Cys Ser Asp Leu Cys Thr His Cys
85 90 95

Cys Cys Glu Tyr Cys Ala Leu Cys Gln Glu Tyr Arg Glu Leu Gln Asn
100 105 110

Gln Gly Phe Asp Met Ser Thr Gly Trp Asn Glu Asn Met Glu Lys Trp
115 120 125

Arg Gly Ser Lys Ser Cys Cys Ala Ala Gly Ala Leu Tyr Met Leu Ile
50 55 60

Asp Leu Ile Thr Ser Cys Gly Arg Met Tyr Ala Cys Phe Tyr Ser Gly
65 70 75 80

Lys Met Arg Ala Gln Tyr Asn Ile Lys Gly Asp Gly Cys Thr Asp Cys
85 90 95

Leu Lys His Phe Cys Cys Asn Leu Cys Ala Leu Thr Gln Gln Tyr Arg
100 105 110

Glu Leu Lys His Arg Gly Phe Asp Met Ser Leu Gly Trp Ala Gly Asn
115 120 125

Ala Glu Lys Gln Gln Asn Gln Gly Gly Val Ala Met Gly Ala Pro Ala
130 135 140

Phe Gln Gly Gly Met Thr Arg
145 150

<210> 22

<211> 136

<212> PRT

<213> Arabidopsis thaliana3a

<400> 22

Met Glu Lys Gln Trp Thr Ser Gly Leu Phe Ser Cys Met Glu Asp Ser
1 5 10 15

Glu Thr Val Ala Cys Leu Thr Cys Phe Cys Pro Cys Val Phe Thr Gly
20 25 30

Arg Ile Ala Asp Ile Ser Asp Glu Gly Arg Thr Gly Gly Cys Gly Thr
35 40 45

Cys Gly Val Phe Tyr Gly Leu Ile Cys Cys Val Val Gly Leu Pro Cys
50 55 60

Leu Phe Ser Cys Thr Tyr Arg Thr Lys Ile Arg Ser Lys Phe Gly Leu
65 70 75 80

Pro Glu Ser Pro Thr Ser Asp Cys Val Thr His Phe Phe Cys Glu Cys
85 90 95

Cys Ala Leu Cys Gln Glu His Arg Glu Leu Lys Thr Arg Gly Leu Asp
100 105 110

180

185

190

<210> 24

<211> 190

<212> PRT

<213> Arabidopsis thaliana3c

<400> 24

Met Gly Arg Pro Val Gly Gln Thr Asn Gln Ala Gln Pro Ser Val Gln
1 5 10 15

His Thr Ala Ser Pro Ser Asn Lys Val Ser His Asn Gly Gly Ile Gly
20 25 30

Lys Pro Ala Asn Ile Pro Thr Gly Ile Pro Val Asn Tyr Gln Gln Thr
35 40 45

Gln Asn Gln Trp Ser Ser Gln Leu Phe Asp Cys Met Asn Asp Ser Glu
50 55 60

Asn Gly Leu Cys Ile Gly Leu Ala Val Ile Thr Leu Ile Ala Pro Cys
65 70 75 80

Val Thr Phe Gly Gln Ile Ala Glu Ile Val Asp Glu Gly Ala Thr Thr
85 90 95

Cys Ala Thr Ala Gly Leu Leu Tyr Gly Ala Leu Phe Phe Thr Gly Ala
100 105 110

Ser Phe Val Tyr Ser Tyr Met Phe Arg Ala Arg Ile Arg Lys Lys Phe
115 120 125

Gly Leu Pro Asp Ala Pro Ala Pro Asp Trp Ile Thr His Leu Val Cys
130 135 140

Met	Pro	Phe	Ala	Leu	Cys	Gln	Glu	Tyr	Arg	Glu	Leu	Lys	His	His	Gly
145					150					155					160

Phe Asp Pro Ile Leu Gly Trp Ala Gly Asn Val Gln Gln Ala Gln Gln
165 170 175

Gln Glu Met Met Thr Pro Pro Thr Gly Gln Arg Met Met Gly
180 185 190

<210> 25

<211> 163

<212> PRT

<213> Arabidopsis thaliana4a

<400> 25

Met Tyr Gly Asn Gly Pro Val Phe Lys Ala Glu Gly Thr Ser Phe Arg
1 5 10 15
Asp Gln Pro Tyr Ala Glu Gln Leu Pro Gln Gly Leu Trp Thr Thr Gly
20 25 30
Leu Cys Asp Cys His Glu Asp Ala His Ile Cys Thr Tyr Gln Asn Thr
35 40 45
Ala Ile Met Pro Cys Val Ser Phe Ala Gln Asn Val Glu Ile Val Asn
50 55 60
Arg Gly Thr Ile Thr Cys Met Asn Ala Gly Leu Ile His Leu Ala Leu
65 70 75 80
Gly Phe Ile Gly Cys Ser Trp Leu Tyr Ala Phe Pro Asn Arg Ser Arg
85 90 95
Leu Arg Glu His Phe Ala Leu Pro Glu Glu Pro Cys Arg Asp Phe Leu
100 105 110
Val His Leu Phe Cys Thr Pro Cys Ala Ile Cys Gln Glu Ser Arg Glu
115 120 125
Leu Lys Asn Arg Gly Ala Asp Pro Ser Ile Gly Trp Leu Ser Asn Val
130 135 140
Glu Lys Trp Ser Arg Glu Lys Val Thr Pro Pro Ile Val Val Pro Gly
145 150 155 160
Met Ile Arg

<210> 26

<211> 160

<212> PRT

<213> Arabidopsis thaliana4b

<400> 26

Met Asn Leu Ser Ser Asn Asp Gln Pro Ser Gln Gly Arg Ile Lys Ala
1 5 10 15
Lys Asp Trp Ser Thr Asp Leu Cys Glu Cys Trp Met Asp Ile Asn Ser

20 25 30
 Cys Cys Leu Thr Cys Trp Cys Pro Cys Val Ala Phe Gly Arg Ile Ala
 35 40 45
 Glu Val Val Asp Arg Gly Ser Thr Ser Cys Gly Val Ser Gly Ala Met
 50 55 60
 Tyr Met Ile Ile Phe Met Leu Thr Gly Tyr Gly Gly Ser Ser Leu Tyr
 65 70 75 80
 Ser Cys Phe Tyr Arg Thr Lys Leu Arg Ala Gln Tyr Asn Leu Lys Glu
 85 90 95
 Arg Pro Cys Cys Asp Cys Cys Val His Phe Cys Cys Glu Pro Cys Ala
 100 105 110
 Leu Cys Gln Glu Tyr Arg Gln Leu Gln His Asn Arg Asp Leu Asp Leu
 115 120 125
 Val Ile Gly Trp His Gly Asn Met Glu Arg His Ala Arg Leu Ala Ala
 130 135 140
 Ser Thr Pro Ser Ala Pro Pro Leu Gln Ala Pro Met Ser Arg Leu Val
 145 150 155 160

<210> 27

<211> 108

<212> PRT

<213> Arabidopsis thaliana5

<220>

<221> UNSURE

<222> (1)..(108)

<223> Xaa at any position in this sequence is unknown

<400> 27

Leu Leu Ser Ile Asn Ser Leu Leu Xaa Phe Xaa Ser Leu Ser Leu Phe
 1 5 10 15

Met Glu Ala Gln His Xaa His Ala Lys Pro His Ala Glu Gly Glu Trp
 20 25 30

Ser Thr Gly Phe Xaa Asp Cys Phe Xaa Asp Cys Lys Asn Cys Cys Ile

35

40

45

Thr Phe Trp Cys Pro Cys Ile Thr Phe Gly Gln Val Ala Glu Ile Val
50 55 60

Asp Arg Gly Ser Thr Ser Cys Gly Thr Ala Gly Ala Leu Tyr Ala Leu
65 70 75 80

Ile Ala Val Val Thr Gly Cys Ala Cys Ile Tyr Ser Cys Phe Tyr Arg
85 90 95

Gly Lys Met Arg Ala Gln Tyr Asn Ile Lys Gly Asp
100 105

<210> 28

<211> 167

<212> PRT

<213> Glycine max1

<220>

<221> UNSURE

<222> (158)

<223> Xaa at position 158 in this sequence is unknown

<400> 28

Met Tyr Gln Gln Gln Gly Ser Asp Pro Thr Lys Gln Ser Pro Ala Thr
1 5 10 15

Gly Phe Pro Val Ser Tyr Ser Asn Ser Thr Thr Tyr Ser Thr Asn Glu
20 25 30

Ala Ser Tyr Ala Pro Val Pro Pro Pro Gln Pro Lys Pro Leu Val Asn
35 40 45

Trp Ser Thr Gly Leu Cys Asp Cys Phe Ser Glu Cys Gly Asn Cys Cys
50 55 60

Met Thr Cys Trp Cys Pro Cys Val Thr Phe Gly Arg Val Ala Glu Ile
65 70 75 80

Val Asp Lys Gly Ser Thr Ser Cys Gly Ala Ser Gly Ala Leu Tyr Thr
85 90 95

Leu Ile Cys Cys Val Ile Gly Cys Gly Cys Leu Tyr Ser Cys Phe Tyr
100 105 110

Arg Pro Lys Met Arg Arg Gln Tyr Gly Leu Lys Gly Asn Gly Cys Ser

115

120

125

Asp Cys Leu Ile His Cys Phe Cys Glu Pro Cys Ala Leu Cys Gln Glu
130 135 140

Tyr Arg Glu Leu Gln His Arg Gly Phe Asp Met Ile Ile Xaa Trp His
145 150 155 160

Gly Asn Val Glu Gln Arg Ser
165

<210> 29

<211> 72

<212> PRT

<213> Glycine max2

<400> 29

Arg Ala Glu Phe Gly Thr Arg Phe Ala Ala Ala Cys Gly Ala Ser Gly
1 5 10 15

Ala Leu Tyr Thr Leu Ile Cys Cys Val Ile Gly Cys Gly Cys Leu Tyr
20 25 30

Ser Cys Phe Tyr Arg Pro Lys Met Arg Arg Gln Tyr Gly Leu Lys Gly
35 40 45

Asn Gly Cys Ser Asp Cys Leu Ile His Cys Phe Cys Glu Pro Cys Ala
50 55 60

Leu Cys Gln Glu Tyr Arg Glu Leu
65 70

<210> 30

<211> 138

<212> PRT

<213> O.sativa1

<220>

<221> UNSURE

<222> (138)

<223> Xaa at position 138 in this sequence is unknown

<400> 30

Met Gln Asp Gln Ala Ala Pro Val Pro Trp Ser Thr Asp Leu Phe Asp
1 5 10 15

Arg

<210> 35

<211> 130

<212> PRT

<213> O.sativa6

<220>

<221> UNSURE

<222> (117)

<223> Xaa at position 117 in this sequence is unknown

<400> 35

Leu Arg Tyr Gln Gln Leu His His Ile Leu Asn Leu Gln Gln Gln Val
1 5 10 15

Ile Val His Arg Arg Arg Lys Leu Lys Glu Ser Arg Arg Ser Met Ala
20 25 30

Lys Pro Ser Ala Ala Ala Trp Ser Thr Gly Leu Leu Asp Cys Phe Asp
35 40 45

Asp Cys Gly Leu Cys Cys Met Thr Cys Trp Cys Pro Cys Ile Thr Phe
50 55 60

Gly Arg Val Ala Glu Met Val Asp Arg Gly Ser Thr Ser Cys Gly Thr
65 70 75 80

Ser Gly Ala Leu Tyr Ala Cys Trp Arg Arg Ser Pro Ala Ala Ser Ser
85 90 95

Ser Thr Pro Ala Ser Thr Gly Ala Arg Cys Ala Pro Ser Thr Ala Ser
100 105 110

Ala Thr Thr Pro Xaa Ala Pro Thr Ala Ala Ser Thr Ser Gly Ala Thr
115 120 125

Ser Ser
130

<210> 36

<211> 144

<212> PRT

<213> O.sativa7

[illegible]

<222> (140)

 $\langle 222 \rangle$ (140)

<400> 36

Arg Arg Pro Cys Pro Asp Cys Phe Val His Phe Xaa Cys Glu Pro Ser
130 135 140

<211> 126

<212> PRT

<213> Zea mays1

<221> UNSURE

<222> (34)

<400> 37

[illegible]

<210> 39

<211> 104

<212> PRT

<213> Pinus taeda

<400> 39

Asp Ser Gly Thr Thr Ser Cys Val Val Ser Gly Leu Met Cys Tyr Leu
1 5 10 15

Leu Ala His Leu Pro Tyr Ile Ser Pro Ile Tyr Ile Cys Phe Tyr Arg
20 25 30

Lys Lys Leu Arg Ala Lys Phe Asn Leu Pro Glu Lys Pro Cys Ala Asp
35 40 45

Cys Leu Val His Cys Cys Cys Leu Phe Cys Ala Leu Cys Gln Glu Tyr
50 55 60

Arg Glu Phe Lys Asn Arg Gly Leu Asp Pro Ala Leu Gly Trp Ala Val
65 70 75 80

Cys Met Glu Lys Gln Arg Ser Gly Gln Ala Gly Ile Ala Met Gln Pro
85 90 95

Pro Met Gly Gln Ala Met Gly Lys
100

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